

What is claimed is:

1. An artificial antigen presenting cell comprising:
  - a) liposome components, said components forming lipid bilayers of a liposome;
  - 5 b) GM-1 components, said GM-1 comprising at least one GM-1 molecule, said GM-1 contacting said liposome components;
  - c) cholera toxin  $\beta$  subunit components; said  $\beta$  subunit components comprising at least a portion of said subunit capable of binding a GM-1 molecule;
  - d) MHC components, said MHC components comprising immunologically active
  - 10 molecules and contacting at least said cholera  $\beta$  subunit;
  - e) antigen components, said antigen components contacting at least said MHC components; and
  - f) accessory molecule components, said accessory molecule components providing for a stabilizing property to an interaction between a T cell receptor and said MHC and said
  - 15 antigen components.
2. An artificial antigen presenting cell according to claim 1 wherein said GM-1 components form rafts comprising multiples of said GM-1 molecules in said lipid bilayers.
- 20 3. An artificial antigen presenting cell according to claim 2 wherein said rafts are present in said lipid bilayer at high density.
4. An artificial antigen presenting cell according to claim 3 further comprising immunologically active molecules selected from the group consisting of co-stimulatory
- 25 molecules, adhesion molecules, and cell modulation molecules.

5. An artificial antigen presenting cell according to claim 3 further comprising irrelevant molecules selected from the group consisting of molecules for binding said artificial antigen presenting cell to a solid support, and a label.

- 5 6. An artificial antigen presenting cell comprising:
- a) liposome components, said components forming lipid bilayers of a liposome;
  - b) GM-1 components, said GM-1 comprising at least one GM-1 molecule, said GM-1 contacting said liposome components;
  - c) cholera toxin  $\beta$  subunit components; said  $\beta$  subunit components comprising at  
10 least a portion of said subunit capable of binding a GM-1 molecule;
  - d) tetraavidin components, said tetraavidin capable to binding said cholera toxin, said tetraavidin further capable of binding between 1 and 3 immunologically active molecules;
  - e) MHC components, said MHC components comprising immunologically active molecules and contacting at least said cholera  $\beta$  subunit;
  - 15 f) antigen components, said antigen components contacting at least said MHC components; and
  - g) accessory molecule components, said accessory molecule components providing for a stabilizing property to an interaction between a T cell receptor and said MHC and said antigen components, said accessory molecules comprising said immunologically active  
20 molecules of (d).

7. An artificial antigen presenting cell according to claim 6 wherein said GM-1 components form rafts comprising multiples of said GM-1 molecules in said lipid bilayers.

25 8. An artificial antigen presenting cell according to claim 7 wherein said rafts are present in said lipid bilayer at high density.

9. An artificial antigen presenting cell according to claim 8 further comprising immunologically active molecules selected from the group consisting of co-stimulatory molecules, adhesion molecules, and cell modulation molecules.

5 10. An artificial antigen presenting cell according to claim 8 further comprising irrelevant molecules selected from the group consisting of molecules for binding said artificial antigen presenting cell to a solid support, and a label.

11. A method of modulating antigen specific T cells comprising contacting a T cell  
10 with an aAPC or claims 1 or 6, incubating said T cells with said aAPC, and monitoring said T cell for modulation.

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